

October 2, 2019

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Association of American Railroads Notice of *Ex Parte* Presentation
WT Docket No. 17-200**

Dear Ms. Dortch:

On September 30, 2019, representatives of the Association of American Railroads (“AAR”) spoke with FCC Wireless Telecommunications Bureau staff via telephone to discuss the Notice of Proposed Rulemaking (“NPRM”) issued in the above-referenced docket (the “900 MHz Proceeding”). FCC staff present on the call were: Roger Noel, Lloyd Coward, Jessica Quinley and Kari Hicks. Participants on behalf of AAR were Kevin Stokes and Bart Downing (CSX), Jim Barrett (BNSF), Tom Peters and Michele Farquhar (Hogan Lovells), and the undersigned.

During the call, AAR explained that a relocation of any of its channels would need to be done on a nationwide or at least very large regional basis. The use of different frequencies in different counties would not be feasible because of the nature of its network architecture. Rail switches and track signals, which are controlled remotely using the 900 MHz network, need to link to more than one base station in order to provide redundancy to these mission-critical components, especially as it is not uncommon for base station backhaul connectivity (provisioned by non-railroad service providers) to be down for long periods of time. This redundancy would be lost in the many areas where a base station is located further down the track from the switch or signal, but on the other side of a county line (especially in rural areas). Re-engineering to accommodate variations in channels by county would be a major, expensive undertaking involving the construction of new base stations to serve devices located near county borders.

AAR also clarified that if it does not receive the 10 contiguous paired channels as proposed in its comments, it would simply retain its current, 1980s era narrowband technology network, even if it ultimately agrees to have its three paired channels falling within the proposed broadband segment relocated nationwide to another three paired channels at others’ expense. Six paired channels simply do not provide adequate bandwidth to support the wideband train safety applications AAR has proposed for the band. Ten paired channels would be the minimum amount of spectrum needed to make those applications realistically feasible, and the minimum amount needed to incentivize the railroads to cover their own relocation costs, which would represent an investment of over \$70 million. Moreover, those ten paired channels need to be contiguous in order to provide for the most efficient use of spectrum deploying commonly available technologies, given that wider

channels provide for greater throughput. Additionally, relocating within the band would be easier to accomplish under a new wideband network scenario where the new radios could be installed without immediately turning off the old radios and halting rail operations on the track.

AAR also explained that, to the extent it retains a six paired channel narrowband network, it is important that those six paired channels *not* be contiguous, because that would lead to railroad-to-railroad adjacent channel interference in congested areas where railroad infrastructure is in close physical proximity. Adequate spectral spacing – like AAR has now – is needed between the railroad channels to avoid this self-interference.

Finally, AAR reviewed some of the safety applications – already addressed in its prior comments – that would be possible with a paired 125 kHz wideband channel (*i.e.*, a pair of 10 contiguous channels). In particular, AAR highlighted that railroads would have the ability to continuously monitor railroad grade crossing equipment for malfunctions rather than just relying on the once-a-month inspections required by the FRA. A wideband channel would also provide an option for PTC base station backhaul redundancy, particularly in rural areas where backhaul options are limited.

This notice is filed pursuant to FCC Rule 1.1206; please contact the undersigned with any questions regarding this matter.

Respectfully submitted,

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cc: Roger Noel
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